

Bridging the DoD-Industry Communications Gap

Improving Strategic Knowledge Sharing

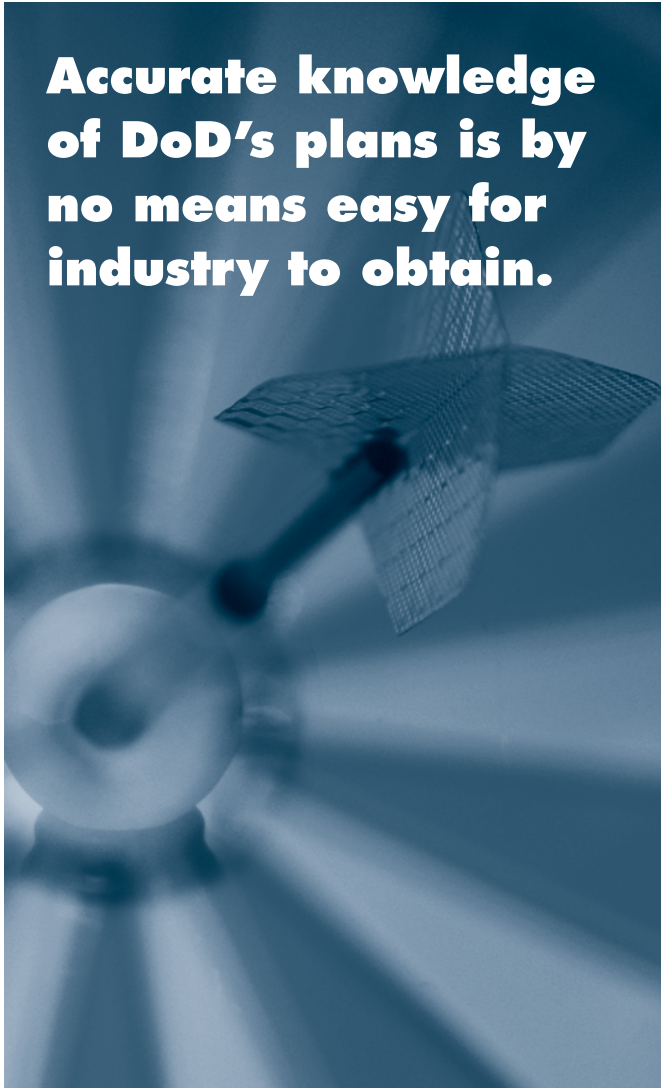
Scott Littlefield

Successful businesses are constantly concerned with understanding their customers' needs. That applies equally to the defense industry. Industry's strategic investments in plant, people, equipment, and technology are driven by both actual and anticipated demand for their products. In the case of major Department of Defense contractors, billions of dollars and thousands of jobs can ride on a decision about where to expand or reduce capacity and what technologies and new programs to pursue. The quality of those decisions is directly related to having accurate knowledge and realistic expectations about what DoD will eventually want to buy and when DoD wants to buy it.

Industry members devote substantial resources to understanding and predicting DoD plans and requirements, but they frequently claim to be in the dark about DoD's actual capability needs. Large defense contractors are exceptionally good at making strategic predictions in the absence of detailed knowledge about DoD's plans, but they still make decisions based on poor assumptions and frequently delay making investment decisions due to insufficient information. Industry's hesitancy about making investments in new capabilities without clear demand signals from DoD is understandable, but it creates conflict with DoD's increasing expectations for high levels of technology maturity prior to initiation of a new acquisition program. If DoD expects industry to meet its needs, it must find better ways to provide reliable information that will allow industry to anticipate and respond to those needs.

There's No Crystal Ball

Accurate knowledge of DoD's plans is by no means easy for industry to obtain. DoD personnel often do not know all the department's plans themselves, since plans are constantly influenced by the pressures of shifting budgets and priorities and are subject to change with each new administration and each new Congress, not to mention the ever-changing and unannounced plans of U.S. adversaries. In the development of new technologies, DoD's plans are additionally influenced by the laws of physics, which may not cooperate with its schedule for developing a new capability. Finally, DoD is not a monolith, and



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the cherished plans of a particular command or agency may not find favor with higher levels of review in the Pentagon.

Even when department personnel know with clarity where DoD is headed and what it wants, they often have good reasons for not revealing those plans. In the case

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of sensitive or classified capabilities, technologies, and operational plans, DoD must deny knowledge to U.S. adversaries that would help the development of countermeasures, or that would reveal U.S. intelligence capabilities to potential adversaries. When working with industrial base partners, DoD, out of necessity, must occasionally provide highly sensitive information. The sharing of this data is governed by strict security procedures and is disclosed on a need-to-know basis. These security practices are well-founded but can also create barriers to potential industry participants who do not have appropriately cleared people or facilities.

Beyond security classification, DoD has other reasons for withholding information. Once the department begins a formal procurement, it must be cautious not to provide one competitor with procurement-sensitive information unless, or until, the department is ready to provide it to all potential competitors. Draft requests for proposals (RFPs), for example, must be tightly held until the department is ready to release them for all to see. The proprietary information of company A must be kept away from company B. DoD cannot engage in “technical leveling”—in other words, the department cannot coach company C to bring the company up to the standards of its competitors. The purpose of these rules is sound. Fairness, objectivity, and maintenance of a level playing field are core principles of acquisition policy and contracting law, but the realities of the contracting process can often be an impediment to effective communication.

Some reasons for not sharing information are less justifiable than those outlined above. Knowledge can be applied or withheld selectively to influence the outcome of a bureaucratic process in ways that favor a particular organization’s position. Knowledge can be traded for other things of value, so why give it away freely? Even without ascribing ulterior motives to the participants, DoD personnel know that the procedural and cultural barriers to sharing information are considerable, and the risks associated with unapproved release of information often cause them to err on the side of caution.

Should DoD and Industry Share Strategic Information?

It is clear that industry benefits from knowing DoD’s plans, but is there a commensurate advantage to DoD in revealing our plans to industry? The answer is yes. When contractors make decisions to invest in technologies or capabilities that do not meet DoD’s needs, that expense represents an inefficiency that is either paid for by the taxpayers or by the stockholders of the corporation.

The defense industry invests billions in independent research and development (IR&D) and bid and proposal efforts every year, largely recovered from DoD through general and administrative charges on other contracts.

In many cases, defense industry members have a good understanding of upcoming opportunities and target their independent investments in ways that are highly beneficial to DoD. However, for a variety of reasons, these investments are not always synchronized with departmental requirements, which leads to the potential for wasted effort. To help rectify this inefficiency, DoD must ensure the following:

- Alignment of DoD needs with industry IR&D so both groups can achieve alignment of investments and transition of capabilities. Objective: To communicate needs, plans, and intended outputs.
- Establishment of a coordinated approach between military services, agencies, and the Office of the Secretary of Defense to identify technology focus areas for long-range investment. Objective: To ensure a balanced research and development portfolio that meets the full spectrum of department capability needs.
- Implementation of effective mechanisms for information interchange, such as technical interchange meetings with the program executive offices and military services. Objective: To enable, improve, and ensure effective engagement with the acquisition community.
- Promotion of department-wide use of the Defense Technical Information Center’s IR&D database to improve collaboration on independent research and development initiatives and investments that will benefit both the department and its suppliers.

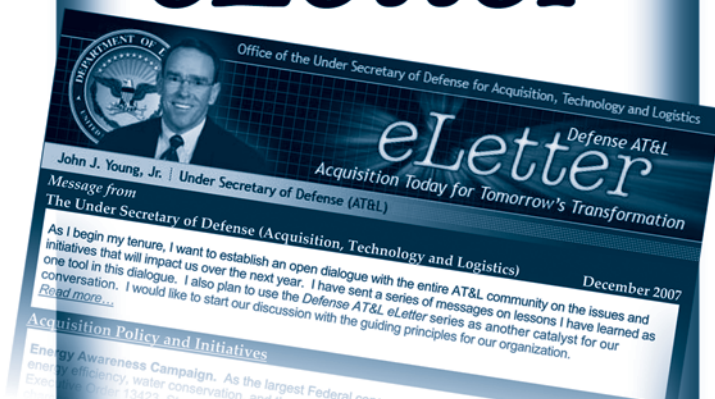
What about sharing knowledge and plans in the other direction? Will both DoD and industry mutually benefit from increasing DoD’s awareness and understanding of the strategic plans of particular industrial contractors? Again, the answer is yes. It is generally acknowledged that DoD personnel do not understand their industry partners particularly well. According to Navy Secretary Donald Winter:

There is a limited understanding within the Department of Defense of how business operates, how it responds to competition, and how it is affected by Wall Street’s expectations. The reasons for this limited understanding are not difficult to discover.

... The department’s acquisition program managers do not have an in-depth understanding of how industry operates, and the department as a whole does not act strategically in dealing with industry. It is very difficult for government to hire from industry, particularly at the more senior levels. Furthermore, we do not provide the experiences or training to our uniformed acquisition professionals that would enable them to fully understand or anticipate industry. Neither gov-

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ernment nor business can effectively operate with this gap in the government's ability to understand business.

The imperative for DoD to better share information with industry has been identified in the reports of numerous study teams and blue ribbon panels, most recently in the 2006 report of the Defense Acquisition Performance Assessment. One of the DAPA recommendations is to "share Department of Defense long-range plans with industry with the goal of motivating industry investments in future technology."

What Information Should Be Shared?

Within DoD, much of its planning for future capabilities is grounded in analysis that starts with the defense planning scenarios and related information, collectively known as the "analytic agenda." The analytic agenda connects the dots between national strategy and overall force structure and provides a way, through modeling, simulation, and war gaming, of assessing the capability and capacity of DoD's forces to prevail in a variety of plausible future scenarios.

At the level of specific systems and capabilities, our acquisition programs have their genesis in the Joint Capabilities Integration and Development System, a process managed by the Joint Staff. Through JCIDS, the military services and combatant commanders define required capabilities that are ultimately translated into technical specifications through the systems engineering process in the acquisition community.

Much of this preparatory work within the department ultimately finds its way to industry through RFPs. However, experience tells us that much of the contextual reasoning—the underlying meaning and the importance of particular specification values—is stripped away in the process of writing the RFP. DoD personnel are frequently surprised that competing industry teams can have very divergent interpretations of the meaning of requirements and specifications. Everyone needs to remember that DoD and industry are operating from a different contextual framework. Furthermore, industry has very limited time to respond to RFPs. If DoD had not laid the groundwork to develop industry teams with relevant expertise and technical domain understanding prior to the issuance of an RFP, then there is little reason to expect the department will receive technically sound and responsive proposals.

If DoD wants such proposals incorporating mature technologies at program initiation, it needs to find ways to convey its needs to industry long before the initiation of a program, and ideally before the department has a particular material solution in mind. DoD personnel need to communicate with industry both to build industry's understanding of DoD needs, and to build an understanding

of what is technically feasible and what can be produced affordably. DoD should consider developing more robust mechanisms to share much of this pre-acquisition contextual information with industry.

Potential Solutions

OK, we understand the problems associated with strategic collaboration and knowledge sharing. But in the context of DoD's relationship with the defense industry, how should the department go about it, and what should the department do better? There are a variety of practical mechanisms that could help. Some are proven, and some are still experimental. A variety of pilot programs are under way to test some of these concepts, involving the Office of the Secretary of Defense, the military services, Joint Staff, combatant commanders, other parts of DoD, and the defense industry. Joint analysis teams including key stakeholders will be formed as needed to coordinate and execute these pilot programs. Ideas under consideration are:

- Actively engage with industry in the development of independent research and development projects. Give industry incentives to share independent research and development results with government. Provide constructive feedback to industry on the value of particular independent research and development products in the context of DoD needs and plans.
- Collaborate with industry in development of topical technology roadmaps such as the Joint Integrated Air and Missile Defense roadmap. Identify technology grand challenges to motivate and focus government and industry's science and technology efforts.
- Publish long-range projections of future acquisition opportunities, extending well beyond the Future Years Defense Program. The Navy's 30-year shipbuilding plan is a model to emulate but could be enhanced with more granular information about projected milestones and technology-need dates. This could focus both industry investments and DoD's science and technology investments to deliver the needed capabilities at the right level of technical maturity at the right time.
- Increase use of pre-acquisition prototyping as a vehicle to explore the interplay between technology and requirements. Competitive prototyping has always been a good practice, and it is now mandated by AT&L policy for all acquisition programs through Milestone B. Experience shows that requirements documents and procurement specifications should be based on real data about what is possible to achieve. Prototyping can be done under independent research and development or funded research, but increasing funded opportunities gives industry and government

more chances to work together and develop a shared understanding of the rationale, context, and technical basis for performance parameters that will eventually become acquisition requirements and procurement specifications.

- Use cooperative research and development agreements as a method for industry/government collaboration on development and modeling of new capabilities, and as a method to better inform both parties about the potential value of new technologies and new operational concepts.
- With appropriate safeguards, provide industry with approved defense planning scenarios and other analytic agenda products that form the baseline for DoD's internal planning process. Starting from the same baseline will allow apples-to-apples comparisons of industry and government analyses and will increase the credibility of both. Collaborate with industry on modeling, simulation, and war gaming to test the value of new technologies and system concepts in realistic scenarios.
- Share JCIDS requirements documents and draft RFPs with industry at the earliest possible point in time.

The Way Forward

There is no silver bullet for collaborative strategic planning, and there are many potential pitfalls along the way. There will be times when industry and DoD objectives do not align and when win-win solutions are not possible. However, DoD can do better. AT&L can lead the way on some of the proposed solutions, but others will require active support and collaboration across the department, including participation from the Joint Staff, all parts of the Office of the Secretary of Defense, the military services, defense agencies, and combatant commanders. The defense industry must also play a key role. DoD personnel need feedback from industry suggesting how DoD can best work with them and where DoD's efforts would provide the most leverage. Personnel also need industry to advocate for change and help them test the feasibility of a variety of innovative business practices. The destination is not entirely clear, but we know the general direction in which to set our course. Let the journey begin!

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